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X. *Description of a new Species of Phalangista.* By Thomas Bell, Esq., F.R.S. & L.S.

Read November 4, 1828.

Ordo. MARSUPIATA.

Genus. PHALANGISTA. *Geoffroy.*

PHALANGISTA GLIRIFORMIS.

TAB. XIII. XIV.

**P.** DORSO rufo-cinereo, gulâ fulvâ, maculâ post aurem utrinque albâ: auribus nudis.

*Habitat* in Australiâ.

*Description.* The general form of this animal resembles that of the common dormouse; but it is larger, broader, and more depressed. The head is broad across the ears, from whence it tapers to the nose, which is somewhat pointed. The nostrils are narrow, and of a semicircular form: the upper jaw, which is elongated, overhangs the under, and almost entirely conceals it. The lips are scantily covered with soft short hair, of a whitish colour, and are furnished with four rows of long black vibrissæ, the posterior ones tipped with light brown. The eyes are very large, remarkably prominent, and of a jet-black colour: the ears of considerable size, erect, totally destitute of hair, and of an uniform mouse-colour. The teeth are not very easily examined in the living subject; the incisores, however, are seen to re-

semble those of the other species of the genus; but from the difficulty of examining the back part of the mouth, the molares have not been very accurately observed: they are moreover extremely small, and almost concealed by the gum. The body is particularly flat and broad, and is covered with a very soft and thick fur; the hairs which compose it being of a gray colour tipped with reddish-brown, give the general hue of rufous-gray. The under parts are more sparingly covered with fur of a pale yellowish-gray colour, the yellow predominating at the sides, and especially at the throat. The general colour of the face is also yellowish, the upper and back part of the head assuming the rufous-gray colour of the back: there is a blackish ring round the eyes, which passes upwards on each side to the forehead, where it mingles with the general colour of that part. The sides of the neck as well as the throat are buff. There is a darkish ring partially surrounding the ears, at the anterior part, interrupted by a distinct white spot behind each.

The feet are almost entirely concealed by the fur when the animal is at rest; and even when in an active state, the breadth of the body, combined with the length of the fur, and the extent to which the skin of the sides is attached to the legs, namely, as far as the carpi and tarsi, gives it very much the aspect of a *Petaurista*, to which genus the present species may, I think, be considered as exhibiting a remarkable approximation. The tail is nearly as long as the body and head together; it is remarkably broad and thick at the base, to more than half an inch from the origin, at which part it becomes contracted, and then gradually tapers to the extremity. It is hairy, being more thickly covered on the upper part, and especially at the base, where it partakes of the

the general colour of the upper parts of the body, becoming more scantily furnished towards the point; and there is, at the extremity of the under part, a narrow space, about half an inch in length, which is entirely naked. The tail is more or less prehensile throughout its whole length, but especially towards the extremity, as is indicated by the bare patch or line just mentioned: there are slight circular depressions at intervals, apparently marking the divisions of the vertebræ, which are more distinctly observable underneath.

The feet are perfectly prehensile. The thumb, as in the other species of the genus, is destitute of a nail both on the fore and hinder feet, and the nails of the other toes are very narrow and slightly hooked. The toes on the fore-feet are nearly of an equal length, and generally stand out in a radiated direction when the animal is standing on a flat surface. The hinder-feet are longer than the fore; the thumb is thick and short, and placed at a greater distance from the other toes in the latter than in the former. The two outer toes are nearly of the same length,—the two next shorter, and, like the other *Phalangistæ*, united together, except at the last phalanx, which gives the appearance of one broad toe with two nails, and these are sharper and narrower than those of the other toes. The under part of the feet is bare,—the upper part sparingly covered with extremely fine short silky hair.

The two specimens from which this description is given being females, the account of the generative organs must be restricted to that sex. One of them had brought forth young ones, which were said to have been in the pouch when she was taken, but died before her arrival in England. The other appears not to

have been impregnated. When they were first brought to this country there was a very obvious difference in the state of the pouches. The teats, which are four in number, were much larger in the elder specimen, particularly the two anterior ones; which is directly opposite to the state of these organs in the Kangaroo, as described in the valuable and elaborate paper of my friend Mr. Morgan, lately read before the Linnean Society. At the present time, however, the teats in the two specimens are nearly, if not exactly, of the same size,—an interesting circumstance, as indicating an analogy to these organs in the Kangaroo; in which animal, as shown in the paper just referred to, a similar diminution of the teats takes place after the young have finally left the pouch. The cloaca is placed about one-third of the distance from the root of the tail to the pouch.

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On examining the characters of this interesting and elegant little animal, it is impossible not to be struck with its general approach to the *Petaurista*,—a resemblance to which I have already alluded. The identity of many of its more obvious characters with those of *Phalangista nana* is too marked not to demand a particular investigation. The history of the latter species is but very imperfectly known; indeed, the short and necessarily unsatisfactory account given by the celebrated Temminck in his Monograph of this genus, serves only to raise our curiosity, without affording an opportunity of satisfying it. The small size of that species, being not larger than a mouse, together with some general similarity in the colour and marking, would almost lead us to identify them as one and the same species, were it not for one striking character, which cannot be mistaken, namely, the surface of the ears. The description of *Phalangista nana*, as given by the above-mentioned distinguished zoologist,



zoologist, has this very obvious character: "les oreilles sont arrondies et couvertes de poils." Now in the specimen from which the present description is given, the ears are so absolutely naked that not even with a lens can the slightest hairiness be discovered on them. This very marked distinction renders it the less necessary for me to dwell upon the minor differences of colour; the under part of *Ph. nana*, for instance, being white, that of our species a yellowish-gray\*.

Two specimens of this beautiful animal are now living in the possession of my friend Mr. Morgan, to whose kindness I am indebted for permission to lay the present account before this Society. He received them from New Holland, according to the declaration of the person who brought them to England, but from what part was not stated.

In their habits they are extremely like the dormouse, feeding on nuts and other similar food, which they hold in their fore paws, using them as hands. They are nocturnal, remaining asleep during the whole of the day, or, if disturbed, not easily roused to a state of activity; and coming forth late in the evening, and then assuming their natural rapid and vivacious habits. They run about a small tree which is placed in their cage, using their paws to hold by the branches, and assisting themselves by their prehensile tail, which is always held in readiness to support them, especially when in a descending attitude. Sometimes the tail is thrown in a reversed direction, turned over the back; and at other times, when the weather is cold, it is rolled closely up towards the under part, and coiled almost between the thighs. When eating they sit up on their hind quarters, holding the

\* See Desmarest, *Nouv. Dict. d'Hist. Nat.* xxv. 477.—Desmar. *Mamm.* p. 268.—F. Cuvier, *Dict. des Sc. Nat.* xxxix. 415.—Temminck, *Monog. Mamm.* 9. The first reference appears to be the original one, and the others either taken from that or from the specimen which formed the subject of it.

food in their fore paws, which, with the face, are the only parts apparently standing out from the ball of fur, of which the body seems at that time to be composed. They are perfectly harmless and tame, permitting any one to hold and caress them without ever attempting to bite, but do not evince the least attachment either to persons about them or even to each other.

The analogy of these animals to the *Rodentia*, and especially to the genus *Myoxus*, is so obvious as to require merely a casual notice of their habits, to strike any one who observes them. It is shown in their nocturnal activity, the nature of their food, their manner of taking it, their attitudes and motions, no less than in many circumstances connected with their external form and characters ; as, the general form of the body, the nature of the fur, the character of the feet, the prominence and remarkable size of the eyes, &c. There is, however, one very important peculiarity of the dormouse, which has not as yet been observed to appertain to our animal, and that is its hybernation.

The habits of the dormouse and squirrel in this respect are universally known. Every one has seen the eagerness with which these animals will seize, pick to pieces, and carry to their places of repose, such substances as are placed within their reach for the purpose of forming their winter bed. But although similar substances have been given to the little animals now described, no attempt has up to the present period (November 4th) been made by them to construct their winter habitation ; and wherever the wool and other matters are placed, there they take their day's rest, without disturbing or altering the arrangement or situation.

As both the specimens from which this account is taken are still in health, it may be some time before an opportunity is afforded of ascertaining their anatomical structure ; but whenever such





*Phalangista gliriformis.*